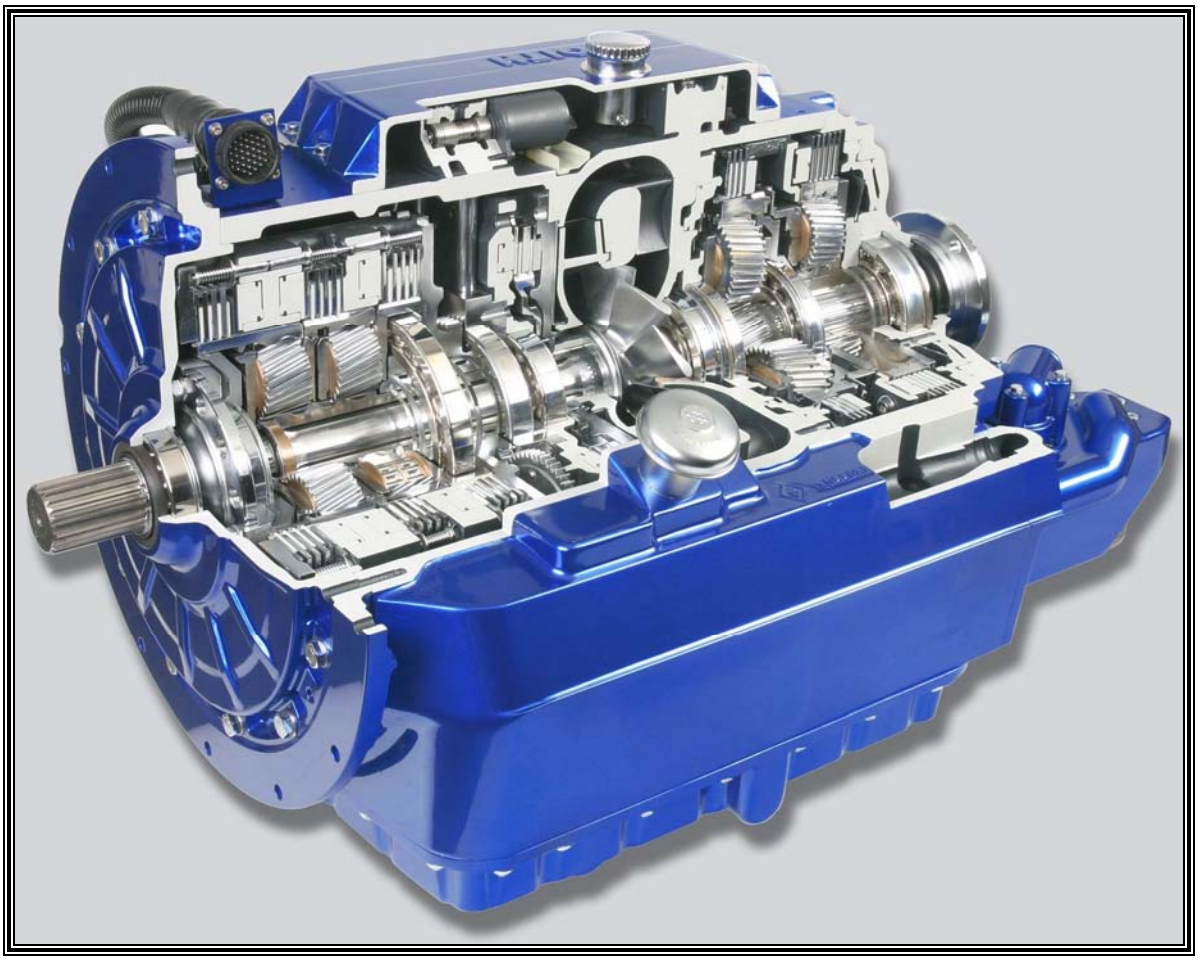
VOITH

X-Change Transmission
Service Schedules

Factory Remanufactured Transmissions



VOITH DIWA® - TRANSMISSIONS FOR TRANSIT BUSES
Go To Voith Road Service Web Page
http://www.voithusa.com/BasicSvcs_Road.asp
Register X-Change Warranty Online
Accessing the Warranty Certificate Form and Filling Out All the Required Information After Installation.
(Failure to do so will limit your warranties)

Voith Turbo

Servicing Schedule
DIWA® Transmissions

D 851.2 / D 851.3
D 854.3
D 863.2 / D 863.3
D 863.2 W7
D 864.2 / D 864.3

1. Initial Checks for X-Change Transmissions

Voith X-Change Transmissions

- Confirm that the transmission oil level is between the minimum and maximum values on the transmission dipstick.
- Confirm that a new Cable #1 that connects to the transmission to the electronic control unit has been installed. Voith supplies a new Cable #1 with each X-Change transmission.
- Check that all electrical connections are secure.
- Complete and return the “Certificate of Warranty Document”.
- Follow Voith’s maintenance schedule for Initial Oil & Filter Changes Section 2.

2. Transmission Break-In Procedures

Valid for:

[redacted]

- Voith X-Change Transmissions

Initial Oil and Filter Change

IMPORTANT

Important: Only use oils that are tested and approved by Voith.
Approved oils are listed in Voith DIWA Service Bulletin (DSB) 13...

- Change the transmission oil and filter at 2,500 miles (4,000 km) or upon delivery. Refer to Section 4 for Oil and Filter change instructions.

Second Oil and Filter Change

IMPORTANT

Important: Only use oils that are tested and approved by Voith.

NOTICE

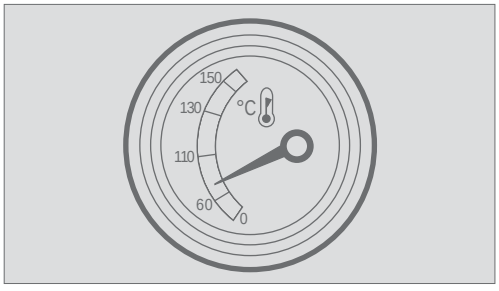
Notice: Oil selection for this service interval will determine your next oil change interval (standard or extended). Refer to Section 5.

- Change the transmission oil and filter at 11,500 miles (18,500 km). Refer to Section 4 for Oil and Filter change instructions.
- After the second oil change proceed to the oil and filter change intervals as outlined in Section 5.

3. Weekly Maintenance

Check the Transmission Oil Level Weekly.

Procedure



- Bring the transmission to operating temperature, i.e. the oil temperature must then be at least 140 °F (= 60 °C).

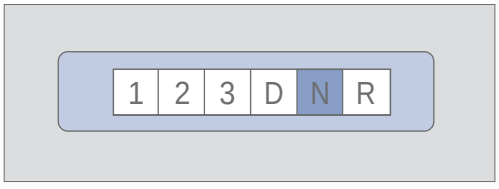
Notice: The transmission oil temperature is about the same as the cooling water temperature. The cooling water temperature indicator can be used for determining the transmission oil temperature.

NOTICE

- Place the vehicle in a level position.

Danger: Apply the parking brake before performing further maintenance work on the bus.

DANGER



- Press the “N” key to bring the transmission to its neutral position.
- Start the engine and let it run at idle speed.

- Withdraw the dipstick from its guide tube and clean it.
- **Briefly** insert the dipstick to prevent false oil level readings from oil splash.
- Read the oil level.
  The oil level must be between the two nominal marks **max.** and **min.**

The difference in quantity between “min.” and “max.” is about 2.6 qts. (2.5 l).

Notice:
Low oil:
Transmission malfunction.
Consequence: clutch damage!
High oil:
Consequences: higher fuel consumption, oil escapes at the breather.

NOTICE

4. Instructions for Changing the Transmission's Oil and Filter

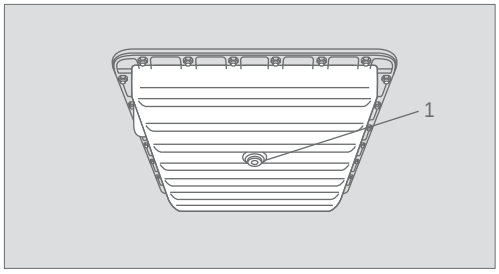
NOTICE

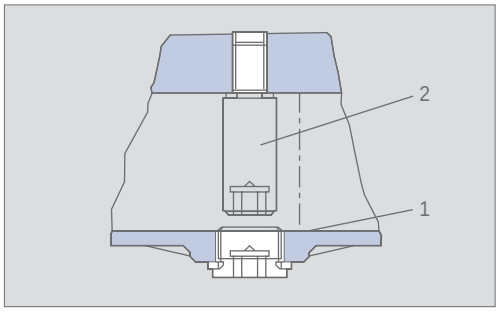
Notice: Drain oil at operating temperature only.

DANGER

Danger: Scalding by hot oils

- Stop the engine.
- Remove the drain plug (1) in the oil pan (allen wrench 12 mm) and drain the oil.
- Remove the drain plug (2) from the converter oil and drain the oil. The plug is accessible through the oil pan drain hole.
- Install drain plugs with new copper seals. Tighten drain plug (2) to 37 ft lbs (50 Nm) and drain plug (1) to 73 ft lbs (100 Nm).
- Fill in transmission oil.





NOTICE

Notice: If the used filter element is very dirty, drop the oil pan and check the clutch disks!

NOTICE

Notice: Use only Voith approved oils, see Voith Service Bulletin 13xx.

Quantity: Approx. 22-24 qts. (21-23 liters) (approx. 26-29 qts. (25-28 liters) for first filling). The dipstick reading counts in any case!

- Check the oil level, and especially oil filter – for leaks.
- Check the oil hoses. Replace if found porous, cracked or chafed.

5. Oil and Filter Change Intervals

Standard Oil and Filter Change Interval

Notice: Standard oil and filter change intervals commence after the initial oil and filter change period as outlined in Section 2.

NOTICE

Important: Only use oils that are tested and approved by Voith.
Approved 36,000 mile (58,000 km) oils are listed in Voith DIWA Service Bulletin (DSB) 13….

IMPORTANT

- Voith's standard fluid change interval is 36,000 miles (58,000 km) or one (1) year whichever comes first.
- Voith's standard filter change interval is 18,000 miles (29,000 km) or one (1) year whichever comes first.

Use Genuine Voith Parts.
Genuine Voith oil filter ensures proper oil filtration and protection of your transmission.

Extended Oil and Filter Change Interval

Notice: Extended oil and filter change intervals commence after the initial oil and filter change period as outlined in Section 2.

NOTICE

Important: Only use oils that are tested and approved by Voith.
Approved 72,000 mile (116,000 km) oils are listed in Voith DIWA Service Bulletin (DSB) 13….

IMPORTANT

- Voith's extended fluid change interval is 72,000 miles (116,000 km) or two (2) years whichever comes first.
- Voith's filter change interval is 18,000 miles (29,000 km) or one (1) year whichever comes first.

Use Genuine Voith Parts.
Genuine Voith oil filter ensures proper oil filtration and protection of your transmission.

IMPORTANT

NOTICE

Important: Warranty Requirement for any fluid operated beyond 36,000 miles.

1. Oil sampling and analysis of the Automatic Transmissions Fluid from each transmission at 18,000 mile (29,000 km) intervals.
   Notice: Samples are always taken before an oil change.
   - For direction or procedures of how to take an oil sample contact your oil analysis company or refer to Voith DIWA Service Bulletin (DSB) 25xx.

2. Analysis results are compared to the standards as established in Voith DIWA Service Bulletin (DSB) 4….

If irregularities are found in the oil sample results, that is, the results are outside the limits set forth in Voith DIWA Service Bulletin (DSB) 4… you will need to decrease your oil drain intervals.

3. If irregularities continue in future oil samples, your oil analysis company will recommend the course of action. This may include pulling the oil pan and conducting a bottom end inspection of the transmission.

4. In the event that there is a warrantable problem with the transmission, Voith Turbo, Inc. will require the following information for evaluation:
   - A copy of the current oil analysis report along with copies of the past three analysis reports for comparison and evaluation. **All** oil analysis sheets must be available for evaluation by Voith.
     Your inability to provide these records may limit your warranties.
   - Oil type (Company Name, Product Name & Approval Number*)

* Approval Number is the licensing number provided by GM or Ford Mercon-V®.

Voith Turbo

VOITH

Servicing Schedule DIWA® Transmissions

D 851.3 E / D 854.3 E / D 863.3 E / D 864.3 E

1. Initial Checks for X-Change Transmissions

Voith X-Change Transmissions

- Confirm that the transmission oil level is between the minimum and maximum values on the transmission dipstick.
- Confirm that a new Cable #1 that connects to the transmission to the electronic control unit has been installed. Voith supplies a new Cable #1 with each X-Change transmission.
- Check that all electrical connections are secure.
- Complete and return the “Certificate of Warranty Document”.
- Follow Voith’s maintenance schedule for Initial Oil & Filter Changes Section 2.

2. Transmission Break-In Procedures

Valid for:

[redacted]

- Voith X-Change Transmissions

Initial Oil and Filter Change

IMPORTANT

Important: Only use oils that are tested and approved by Voith.
Approved oils are listed in Voith DIWA Service Bulletin (DSB) 13...

- Change the transmission oil and filter at 2,500 miles (4,000 km) or upon delivery. Refer to Section 4 for Oil and Filter change instructions.

Second Oil and Filter Change

IMPORTANT

Important: Only use oils that are tested and approved by Voith.

NOTICE

Notice: Oil selection for this service interval will determine your next oil change interval (standard or extended). Refer to Section 5.

- Change the transmission oil and filter at 11,500 miles (18,500 km). Refer to Section 4 for Oil and Filter change instructions.
- After the second oil change proceed to the oil and filter change intervals as outlined in Section 5.

4. Instructions for Changing the Transmission's Oil and Filter

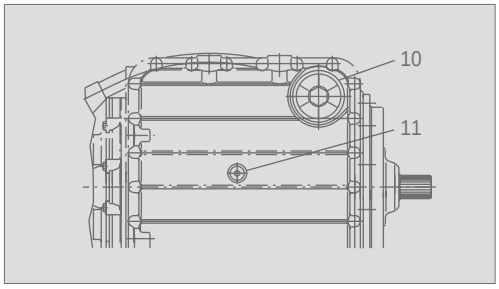
NOTICE

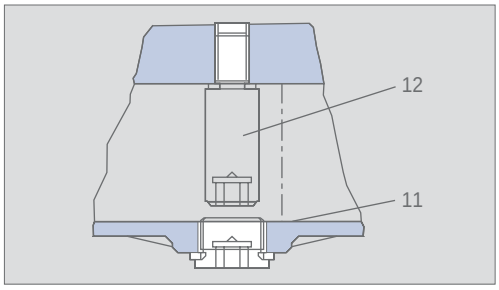
Notice: Drain oil at operating temperature only.

⚠ DANGER

Danger: Scalding by hot oils

- Stop the engine.
- Remove the drain plug (11) in the oil pan (allen wrench 12 mm) and drain the oil.
- Remove the drain plug (12) from the converter and drain the oil. The plug is accessible through the oil pan drain hole.
- Install drain plugs with new copper seals. Tighten drain plug (12) to 37 ft lbs (50 Nm) and drain plug (11) to 73 ft lbs (100 Nm).
- Unscrew and remove the access cover (10) filter cover (15) of the oil pan filter (14) (width across flats 36).
- Replace oil filter element (17) and sealing ring (18).

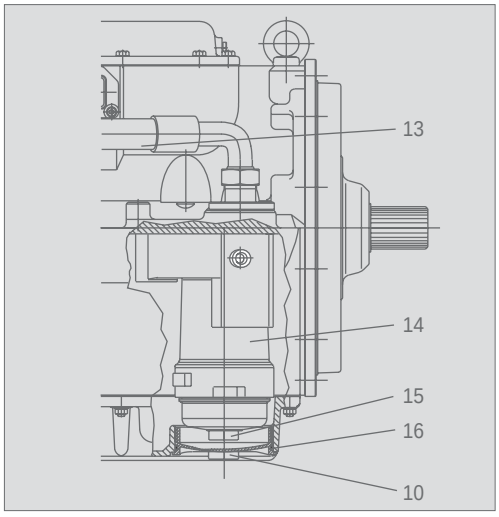




NOTICE

Notice: If the used filter element is very dirty, remove the oil pan and check the clutches.

- Install cover (15) with oil filter element (17) and sealing ring (18) and tighten to 18 ft lbs (25 Nm).
- Install access cover (10) with new sealing ring (16) and tighten to 18 ft lbs (25 Nm).
- Fill the transmission with oil.

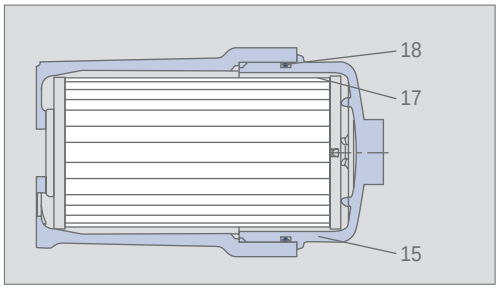


NOTICE

Notice: Use only Voith approved oils, see Voith DIWA Service Bulletin (DSB) 13….

Quantity: Approx. 22-24 qts. (21-23 liters) (approx. 26-29 qts. (25-28 liters) for first filling). Check the dipstick reading!

- Check the oil level, and – especially the cover (10) of the oil pan for leaks.
- Check the oil hoses (13). Replace if found porous, cracked or chafed.



5. Oil and Filter Change Intervals

Standard Oil and Filter Change Interval

Notice: Standard oil and filter change intervals commence after the initial oil and filter change period as outlined in Section 2.

NOTICE

Important: Only use oils that are tested and approved by Voith.
Approved 36,000 mile (58,000 km) oils are listed in Voith DIWA Service Bulletin (DSB) 13….

IMPORTANT

- Voith's standard fluid and filter change interval is 36,000 miles (58,000 km) or one (1) year whichever comes first.

Use Genuine Voith Parts.
Genuine Voith oil filter ensures proper oil filtration and protection of your transmission.

Extended Oil and Filter Change Interval

Notice: Extended oil and filter change intervals commence after the initial oil and filter change period as outlined in Section 2.

NOTICE

Important: Only use oils that are tested and approved by Voith.
Approved 72,000 mile (116,000 km) oils are listed in Voith DIWA Service Bulletin (DSB) 13….

IMPORTANT

- Change the transmission oil and filter every 72,000 miles (116,000 km) or two (2) years whichever comes first.

Use Genuine Voith Parts.
Genuine Voith oil filter ensures proper oil filtration and protection of your transmission.

IMPORTANT

Important: Warranty Requirement for any fluid operated beyond 36,000 miles.

NOTICE

1. Oil sampling and analysis of the Automatic Transmissions Fluid from each transmission at 18,000 mile (29,000 km) intervals.
   Notice: Samples are always taken before an oil change.
   - For direction or procedures of how to take an oil sample contact your oil analysis company or refer to Voith DIWA Service Bulletin (DSB) 25xx.

2. Analysis results are compared to the standards as established in Voith DIWA Service Bulletin (DSB) 4….

If irregularities are found in the oil sample results, that is, the results are outside the limits set forth in Voith DIWA Service Bulletin (DSB) 4… you will need to decrease your oil drain intervals.

– Continued –

Oil and Filter Change Intervals
Requirements for 72,000 mile (116,000 km) oil change intervals

– Continued –

3. If irregularities continue in future oil samples, your oil analysis company will recommend the course of action. This may include pulling the oil pan and conducting a bottom end inspection of the transmission.

4. In the event that there is a warrantable problem with the transmission, Voith Turbo, Inc. will require the following information for evaluation:
   - A copy of the current oil analysis report along with copies of the past three analysis reports for comparison and evaluation. **All** oil analysis sheets must be available for evaluation by Voith.
     Your inability to provide these records may limit your warranties.
   - Oil type (Company Name, Product Name & Approval Number*)

* Approval Number is the licensing number provided by GM or Ford Mercon-V®.

Voith Turbo

VOITH

Servicing Schedule
DIWA.5® Transmissions

D 854.5 / D 864.5

Introduction

Thank you for choosing Voith. This service document will provide you with important information necessary to maintain the operation of your Voith DIWA® transmission. Depending on your operating conditions and environment, you may elect to perform some of the maintenance and inspections earlier than recommended by Voith.

This service document applies to Voith DIWA transmissions operating in North America. This Service document covers Voith Transmission Types: DIWA.5.

Maintenance Validation

The maintenance steps outlined in this document must be followed during the transmission's base warranty and if applicable, extended warranty period. Failure to follow these maintenance steps may limit your warranty. It is the owner's responsibility to ensure that proper records are documented for the outlined maintenance requirements. Failure to maintain these records could limit the warranty coverage on the transmission. For details on Voith's warranty coverage please refer to Warranty document G1939 VTI.

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Oil Hoses

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Transmission Heat Exchanger
Coolant Requirements
Transmission Oil Fill Capacities
Engine/Transmission Stall Tests

1. Initial Checks for New, Rebuilt and X-Change Transmissions

New Transmissions

- If the transmission is equipped with a secondary dipstick, one that is provided by the vehicle manufacturer, confirm that the secondary dipstick is calibrated to match the Voith factory dipstick. For example, if the Voith factory dipstick reads maximum, the secondary dipstick should also read maximum. See oil level check procedure, Section 3.
- Confirm that the transmission oil level is between the minimum and maximum values. See oil level check procedure, Section 3.
- Have your Voith dealer complete a “Pre- Delivery Inspection” (PDI) to confirm proper operation of the transmission.
- Follow Voith’s maintenance schedule for Initial Filter Changes; Section 2.

Rebuilt Transmissions

- Confirm that the transmission oil level is between the minimum and maximum values on the transmission dipstick.
- Check that all electrical connections are secure.
- If a new main transmission cable has not been installed refer to the Section 6 “Transmission Electrical System Inspection”.
- Follow Voith’s maintenance schedule for Initial Filter Changes Section 2.

Voith X-Change Transmissions

- Confirm that the transmission oil level is between the minimum and maximum values on the transmission dipstick.
- Confirm that Cable #1 connections to the transmission are clean and free of oxidation.
- Check that all electrical connections are secure.
- Complete and submit the “Online Certificate of Warranty Document”.
- Follow Voith’s maintenance schedule for Initial Filter Changes Section 2.

2. Transmission Break-In Procedures

Valid for:

- [redacted]
- [redacted]
- Voith X-Change Transmissions

Initial Filter Change

IMPORTANT

Important: Only use oils that are tested and approved by Voith
Approved oils are listed in Voith DIWA Service Bulletin (DSB) 118...

- **Change the transmission oil filter at 10,000 miles (16,000 km).**
  Refer to Section 4 for Oil and Filter change instructions.

Using Petro Canada

IMPORTANT

Important: Using Petro Canada oil must be installed prior to delivery or at PDI.

NOTICE

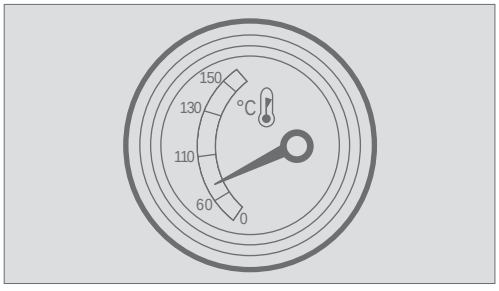
Notice: To participate in the Petro Canada extended standard warranty program or five (5) year warranty rebate. Petro Canada product H36007 must be installed at PDI.

- Voith Turbo must have a signed agreement that Petro Canada will be used for the duration of the warranty period.
- Please contact your Regional Sales Manager for further details about the the Voith Petro Canada cooperation.

3. Weekly Maintenance

Check the Transmission Oil Level Weekly.

Procedure



- Bring the transmission to operating temperature, i.e. the oil temperature must then be at least 140 °F (= 60 °C).

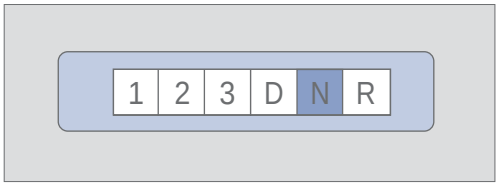
Notice: The transmission oil temperature is about the same as the cooling water temperature. The cooling water temperature indicator can be used for determining the transmission oil temperature.

NOTICE

- Place the vehicle in a level position.

Danger: Apply the parking brake before performing further maintenance work on the bus.

DANGER



- Press the “N” key to bring the transmission to its neutral position.
- Start the engine and let it run at idle speed.

- Withdraw the dipstick from its guide tube and clean it.
- **Briefly** insert the dipstick to prevent false oil level readings from oil splash.
- Read the oil level.
  The oil level must be between the two nominal marks **max.** and **min.**

The difference in quantity between “min.” and “max.” is about 2.6 qts. (2.5 l).

Notice:
Low oil:
Transmission malfunction.
Consequence: clutch damage!
High oil:
Consequences: higher fuel consumption, oil escapes at the breather.

NOTICE

4. Instructions for Changing the Transmission's Oil and Filter

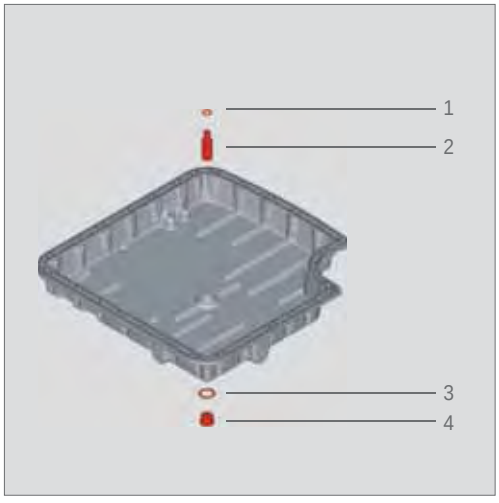
NOTICE

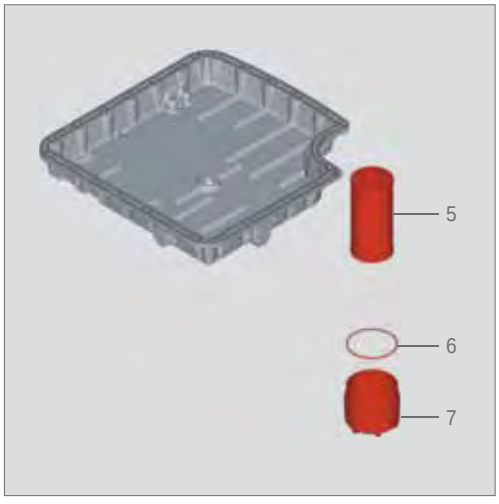
Notice: Drain oil at operating temperature only.

DANGER

Danger: Scalding by hot oils

- Stop the engine.
- Remove the drain plug (4) in the oil pan (allen wrench 12 mm) and drain the oil.
- Remove the drain plug (2) from the converter and drain the oil. The plug is accessible through the oil pan drain hole.
- Install drain plugs with new copper seals (1+3). Tighten drain plug (2) to 37 ft lbs (50 Nm) and drain plug (4) to 73 ft lbs (100 Nm).
- Unscrew and remove the filter cover (7) (width across flats 36).
- Replace oil filter element (5) and sealing ring (6).





NOTICE

Notice: If the used filter element is very dirty, remove the oil pan and check the clutches.

- Install cover (7) with oil filter element (5) and sealing ring (6) and tighten to 18 ft lbs (25 Nm).
- Fill the transmission with oil.

NOTICE

Notice: Use only Voith approved oils, see Voith DIWA Service Bulletin (DSB) 118….

Quantity: Approx. 22-24 qts. (21-23 liters) (approx. 26-29 qts. (25-28 liters) for first filling). Check the dipstick reading!

- Check the oil level, and – especially the filter cover (7) for leaks.

5. Oil and Filter Change Intervals

Standard Oil and Filter Change Interval

Notice: Standard oil and filter change intervals commence after the initial filter change period as outlined in Section 2.

NOTICE

Important: Only use oils that are tested and approved by Voith. Approved 36,000 mile (58,000 km) oils are listed in Voith DIWA Service Bulletin (DSB) 118….

IMPORTANT

- Voith's standard fluid and filter change interval is 36,000 miles (58,000 km) or one (1) year whichever comes first.

Use Genuine Voith Parts.
Genuine Voith oil filter ensures proper oil filtration and protection of your transmission.

Extended Oil and Filter Change Interval

Notice: Extended oil and filter change intervals commence after the initial filter change period as outlined in Section 2.

NOTICE

Important: Only use oils that are tested and approved by Voith. Approved 72,000 mile (116,000 km) oils are listed in Voith DIWA Service Bulletin (DSB) 118….

IMPORTANT

- Change the transmission oil and filter every 72,000 miles (116,000 km) or two (2) years whichever comes first.

Use Genuine Voith Parts.
Genuine Voith oil filter ensures proper oil filtration and protection of your transmission.

IMPORTANT

Important: Warranty Requirement for any fluid operated beyond 36,000 miles.

NOTICE

1. Oil sampling and analysis of the Automatic Transmissions Fluid from each transmission at 18,000 mile (29,000 km) intervals.
   Notice: Samples are always taken before an oil change.
   - For direction or procedures of how to take an oil sample contact your oil analysis company or refer to Voith DIWA Service Bulletin (DSB) 25xx.

2. Analysis results are compared to the standards as established in Voith DIWA Service Bulletin (DSB) 4….

If irregularities are found in the oil sample results, that is, the results are outside the limits set forth in Voith DIWA Service Bulletin (DSB) 4… you will need to decrease your oil drain intervals.

– Continued –

Oil and Filter Change Intervals
Requirements for 72,000 mile (116,000 km) oil change intervals

– Continued –

3. If irregularities continue in future oil samples, your oil analysis company will recommend the course of action. This may include pulling the oil pan and conducting a bottom end inspection of the transmission.

4. In the event that there is a warrantable problem with the transmission, Voith Turbo, Inc. will require the following information for evaluation:
   - A copy of the current oil analysis report along with copies of the past three analysis reports for comparison and evaluation. **All** oil analysis sheets must be available for evaluation by Voith.
     Your inability to provide these records may limit your warranties.
   - Oil type (Company Name, Product Name & Approval Number*)

* Approval Number is the licensing number provided by GM or Ford Mercon-V®.

6. Required Maintenance Inspections

Transmission inspections are a vital part of maintaining proper operation. Failure to perform these procedures may limit warranty coverage.

Transmission Oil Pan (Sump) Inspection

Initially after two (2) years of operation and then every year thereafter if a 36,000 mile ATF is used.
If a 72,000 mile ATF is used pan inspection may be performed at 2 year interval after the initial pan inspection.
Provided oil analysis is preformed every 18,000 miles.

Warning: Danger of scalding with hot oil.

1. Drain the fluid from the transmission by removing the drain plug.

2. Drain the torque converter.

3. Remove the oil pan.

   • Inspect the oil sump for an accumulation of material. Excess debris indicates that further internal inspection should be performed

   (i.e. clutch plates maybe burnt, warped or damaged).

4. Remove the suction strainer.

Caution: The suction strainer is filled with oil, that can be hot.

Warning: Danger of scalding with hot oil.

- Inspect the strainer screen for debris. Excess debris indicates that further internal inspection should be performed.
- Inspect the strainer for damage, replace if necessary.
- Wash the strainer in a suitable cleaning agent and reinstall.

5. Check all visible hydraulic line connections for tightness.

6. Check all visible clutch plates to determine if they are burnt, warped or damaged.

7. Check all visible electrical connection and cables for signs of abrasion or cracks.

8. Reinstall the oil pan using a new pan gasket and converter/plug seals.

9. Install a new oil filter and fill with new oil.

Transmission Diagnostic Check

Every one (1) year of operation and then every year thereafter.

1. Check transmissions ECU for event memory and correct any priority level one (1) or level two (2) events using the Voith ALADIN® program if any.

Transmission Operating Pressure Check

Initially after two (2) years of operation and then every year thereafter.

1. Check both the operating and converter pressure as outlined in Voith's Fault Finding Manual 150000245…. Adjust as necessary.

Transmission Electrical System Inspection

Initially after two (2) years of operation and then every year thereafter.

1. Inspect the transmission cables for abrasive rubbing or cracks. Replace as necessary to insure cable integrity.

Transmission Oil Hose Check (If used)

Initially after two (2) year of operation and then every year thereafter.

1. Check external oil lines. Replace if found to be porous, brittle or chafed.

2. Voith recommends that oil hoses be replaced after six (6) years of service.

7. Appendix A/B/C

Appendix A: Transmission Heat Exchanger Coolant Requirements

Coolant used with the Voith heat exchanger should comply with SAE/ASTM criteria for aluminum corrosion and cavitation protection, per ASTM standards D2809, D2570, D43401, D1384. Coolant must be compatible with silumin.

Water Quality*		Mixing Portions	
PH-value	6.5 …8.5 at 20 [°C] (= 68 °F)	Anti-freeze**	50%
Water hardness	5 …20 [°dH]	Corrosion inhibitor	1%
Chloride ions	max. 100 [mg/1]	Water	49%

* Avoid floating particles, especially those containing copper, in the water.
Use clean and, if possible, not too hard water. Normally, drinking water is suitable.
** Anti-freeze Glycol Ethylene must be used.

Deviations from the above require immediate notification to Voith or nearest authorized Voith representative, stating the exact details of water, anti-freeze and corrosion inhibitor data. Failure of notification can result in the termination of all applicable warranty conditions in respect to transmission and any consequential damage cause by a defective cooling system.

Appendix B: Transmission Oil Fill Capacities

Transmission Model	Complete New Filling	For Oil Change Approximately
D854.5 / D864.5	25-26 quarts [24-25 liters]	23 quarts [22 liters]

Notice: Use only Voith approved Automatic Transmission Fluid (ATF), per Voith Turbo Inc. Service Bulletin 118…. Failure to use approved oil could lead to transmission damage and possible voiding of warranty coverage.

NOTICE

Appendix C: Engine/Transmission Stall Tests

Warning: Stalling the Voith transmission more than 15 seconds will cause damage to the transmission and will limit warranties.

⚠ WARNING

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**
Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

Subject: **Oils Approved for Use with the following DIWA Transmissions: DIWA.2; DIWA.2W7; DIWA.3; DIWA.3W7; and DIWA.3E.**

Purpose: **This service bulletin provides certain operating, maintenance and service instructions relating to the oils that must be used in connection with the DIWA transmissions described above.**

Note: **This service bulletin addresses DIWA transmissions operated by end users within North America. This service bulletin does not affect any of the matters described in the following Voith Turbo documents (which address matters relevant for certain transmissions operated by end users outside of North America): 55.6335.32 & 55.6336.32 & G607.**

This service bulletin refers to DIWA Transmissions DIWA.2, DIWA.2W7, DIWA.3, DIWA.3W7 and DIWA.3E as the "DIWA transmissions."

This service bulletin supersedes all previous service bulletins regarding the same subject matter.

SELECTION AND USE OF PROPER TYPES OF OILS

General: The use of certain types of oil in connection with the DIWA transmissions may result in damage to the transmissions and related equipment. This service bulletin provides important instructions with respect to the selection and use of proper types of oils in connection with the DIWA transmissions.

Preferred Oils: End users should use the oils described on Appendix A (Preferred Approved Oils for the Voith DIWA Transmission) in connection with the DIWA transmissions. Voith Turbo approved the use of the oils described on Appendix A based on information submitted by the oil manufacturer within the two-year period preceding the date of this service bulletin (or update to this service bulletin).

Permitted Oils: If the use of the oils described on Appendix A is not feasible, then end users may use the oils described on Appendix B (Inactive Approved Oils for the Voith DIWA Transmission). The oils described on Appendix B were previously listed on Appendix A, but have been removed from Appendix A because either (a) Voith Turbo has learned that the oils are no longer produced by the applicable oil manufacturer or (b) the applicable oil manufacturer has not completed the recertification process with respect to the oils within the two-year period preceding the date of this service bulletin (or update to this service bulletin).

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**
Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

Change List: End users should review Appendix C (Change List – Approved Oils for the Voith DIWA Transmission). Appendix C describes the oils, if any, that Voith Turbo has removed from Appendix A or Appendix B since the date of the previous update to this service bulletin.

Impact on Warranty: End users are instructed to avoid the use of any type of oil that is not described on Appendix A or Appendix B in connection with the DIWA transmissions. Neither Voith Turbo nor any of its affiliates will have any liability or responsibility for any damage, loss or other claim arising from the use of any oil that is not described on Appendix A or Appendix B in connection with the DIWA transmissions.

Oil Supply: The oil market is subject to rapid changes due to frequent changes of approval numbers and the associated reformulations of oils. End users should note that Voith Turbo may remove oils from Appendix A and/or Appendix B for any or no reason, including as a result of changes in the oil market, when end users are making decisions regarding oil supply or purchase commitments. Neither Voith Turbo nor any of its affiliates will have any liability or responsibility for any loss or other claim arising from any change made to Appendix A and/or Appendix B, including any loss or other claim relating to any end user's purchase of oils that are removed from Appendix A and/or Appendix B.

Oil Changes: If an end user wishes to change the type of oil that it is using in connection with a DIWA transmission (to an oil described on Appendix A or Appendix B), then the end user should cause all storage tanks and associated fluid handling equipment to be thoroughly cleaned to remove all traces of the previously used oil.

APPROVAL/RECERTIFICATION PROCESS

Set forth below is an overview of the approval/recertification process that Voith Turbo generally will use to determine whether an oil may be described on Appendix A. If an end user wishes to use an oil that is not described on Appendix A or Appendix B, then the end user may request the applicable oil manufacturer to comply with the process described below and Voith Turbo will determine whether it is willing to add the oil to Appendix A. Importantly, Voith Turbo will move an oil from Appendix A to Appendix B if an oil manufacturer fails to comply with the process described below with respect to the oil at least once during every two-year period.

1. The oil manufacturer must fill out Appendix D (Data Sheet for Automatic Transmission Oils).

   Note: All Information must be filled out completely, or the application will be returned without further action on the part of Voith Turbo.

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2. The oil manufacturer must submit a one pint base sample of the oil that is being evaluated.

3. The oil manufacturer must submit a laboratory analysis report for the one pint base sample. The analysis must cover the following criteria:

    - Acid Number (ASTM D664 mod)
    - Viscosity at 40 and 100 deg C,
    - Element data in ppm (Fe, Al, Cr, Cu, Pb, Sn, Ni, Ag, Si, Na, B, Zn, P, Ca, Mg, Ba, Mo, K).
    - IF analysis report of sample.

4. After its review of the information submitted by the oil manufacturer, Voith Turbo will notify the oil manufacturer whether the oil will be described on Appendix A.

OTHER SERVICE BULLETINS

This service bulletin does not supersede or otherwise affect any service bulletins regarding any other subject. End users should review and comply with all other service bulletins relating to DIWA transmissions. **Without limitation, end users should review and comply with the Servicing Schedule for DIWA Transmissions contained in Service Bulletin #G1734 and or G1735, which contains important operating, maintenance and service instructions regarding oil and filter changes.**

IMPORTANT NOTICE

The information contained in this service bulletin, including the appendices, is current as of the date of this service bulletin (or update to this service bulletin). Voith Turbo reserves the right to modify the contents of this service bulletin, including the appendices, at any time.

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**

Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

Appendix A: Preferred Approved Oils for the Voith DIWA Transmission

For Voith Transmissions: DIWA.2, DIWA.2W7, DIWA.3, DIWA.3W7, DIWA.3E

	COMPANY NAME (Marketer)	*BRAND NAME*	*Approval Number GM/Mercon*	*Syn(S) Min (M)*	*Recertification Date*	*Drain Interval (Miles)*
1	American Agip	HD Synthetic Blend ATF	H36381 NA	S	01/23/10	72,000
2	BP Oil and Exploration	Autran Syn 295	G36746 NA	S	05/21/10	72,000
3	BP USA	Castrol Ltd Multi Vehicle ATF	H36311 M040503	S	01/31/10	36,000
4	Castrol Ltd. Heavy Duty Lube	TranSynd ATF	G34010 NA	S	05/21/10	72,000
5	Chevron Products Company	Caltex Texamatic 188 (H-36161)	Caltex 510134	S	10/02/10	36,000
6	Chevron Products Company	Chevron Texamatic 188 (H-36161)	Caltex 510134	S	10/02/10	36,000
7	Chevron Products Company	Chevron Synthetic ATF HD	H36048 M5050801	S	06/01/09	72,000
8	Chevron Products Company	Chevron ATF MERCON V	H36440 M5050901	M	01/23/10	36,000
9	Chevron Products Company	Texaco/Havoline ATF MERCON V	H36440 M5050901	M	01/23/10	36,000
10	Chevron Products Company	Texaco Synthetic ATF HD	H36048 M5050801	S	06/01/09	72,000
11	Chevron Products Company	Caltex Synthetic ATF HD	H36048 M5050801	S	06/01/09	72,000
12	Chevron Products Company	Chevron Multi-vehicle ATF	H36440 M5050901	M	01/23/10	36,000
13	Chevron Products Company	Texaco/Havoline Multi-vehicle ATF	H36440 M5050901	M	01/23/10	36,000
14	Chevron Products Company	Volvo Ultra ATF	ETL 10116	S	04/24/11	36,000
15	Citgo Petroleum Corp	Quatra Syn Synthetic ATF	FP-6751	S	10/10/10	36,000
16	Citgo Petroleum Corp	Transguard Multi-Vehicle ATF	DF-3383-9	S	06/15/11	36,000
17	Citgo Petroleum Corp	Transguard Mercon V	DF-3383-4	S	06-15-11	36,000
18	Conoco Phillips - Conoco	Conoco MERCON V ATF	H36011 M5040301	M	01/31/10	36,000
19	Conoco Phillips - Conoco	Conoco VersaTrans ATF	M5080602	S	02/25/11	36,000
20	Conoco Phillips - 76 Lubricant	76 MERCON V ATF	H36011 M5040301	M	01/31/10	36,000
21	Conoco Phillips - 76 Lubricant	76 VersaTrans ATF	M5080602	S	02/25/11	36,000

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**

Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

	COMPANY NAME (Marketer)	*BRAND NAME*	*Approval Number*	*Class Base Synthetic (S) or Mineral (M)*	*Recertification Date*	*Drain Interval*
22	Conoco Phillips - Kendall	Mercon V ATF	H36011 M5040301	M	01/31/10	36,000
23	Conoco Phillips - Kendall	Kendall VersaTrans ATF	M5080602	S	02/25/11	36,000
24	Conoco Phillips - Phillips 66	Mercon V ATF	H36011 M5040301	M	01/31/10	36,000
25	Conoco Phillips - Phillips 66	Phillips 66 VersaTrans ATF	M5080602	S	02/25/11	36,000
26	Cognis	Emguard ATF 2801	H36002	S	04/11/11	72,000
27	Delta Petroleum	Dexron III Mercon Multipurpose ATF	H36043	S	04/22/11	36,000
28	Deutsche Pentosin Werke GmbH	Pentosin ATF1	G052162A2	S	02/26/09	72,000
29	Exxon Mobil	Esso ATF LT 71141	71141	S	04/24/10	72,000
30	Fuchs	Titan ATF 3000	Dexron II-D	S	06/02/11	36,000
31	Fuchs	Titan ATF 4000	H-36055	S	06/02/11	36,000
32	Fuchs	Titan ATF 5000 SL	IID-21454/IIE-25112	S	06/02/11	72,000
33	Fuchs	Titan ATF 5005	H-36002	S	06/02/11	72,000
34	Petro Canada Lubricants	Dexron VI ATF	H36006 J-6001	S	02/13/11	36,000
35	Petro Canada Lubricants	PC HD Syn Blend ATF	H36007 M5970801	S	03/31/10	72,000
36	Petro Canada Lubricants	DuraDrive HD Synthetic ATF	DDHDATF	S	04/24/11	36,000
37	Shell Oil Products (SOPUS)	Donax TX	H36203	S	05/16/10	36,000
38	Shell Oil Products (SOPUS)	Formula Shell Multi-Vehicle ATF	H36464	S	03/17/11	36,000
39	Shell Oil Products (SOPUS)	Pennzoil Mercon V	H36307	S	03/17/11	36,000
40	Shell Oil Products (SOPUS)	Pennzoil Multi-Vehicle ATF	H36200	S	03/17/11	36,000
41	Shell Oil Products (SOPUS)	Quaker State 4X4	H36306	S	03/17/11	36,000
42	Shell Oil Products (SOPUS)	Quaker State Multi-Vehicle ATF	H36201	S	03/17/11	36,000
43	Shell Oil Products (SOPUS)	Donax TA	D-21666	S	04/23/11	36,000

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**

Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

	COMPANY NAME (Marketer)	*BRAND NAME*	*Approval Number*	*Class Base Synthetic (S) or Mineral (M)*	*Recertification Date*	*Drain Interval*
44	Shell Oil Products (SOPUS)	Donax TV	550014252	S	06/05/11	72,000
45	Valvoline	Maxlife	M5070801	S	02/29/10	36,000
46	Warren Oil	Warren Synthetic Blend	H36043	S	12/20/09	36,000
47	Warren Oil	Costal Multi-vehicle Synthetic Blend	H36043	S	12/20/09	36,000
48	Warren Oil	Service Pro Premium Universal Synnthetic Blend	H36043	S	12/20/09	36,000

IMPORTANT NOTICE

END USERS ARE NOT AUTHORIZED OR INSTRUCTED TO USE ANY OF THE ABOVE-DESCRIBED OILS IF ANY PORTION OF THE APPLICABLE OIL IS MODIFIED AS A RESULT OF A CHANGE IN THE BASE OIL, AN ADDITIVE PACKAGE OR ADDED COMPONENTS.

*** Note: All products that carried the GM "G" approval rating have been moved to the INACTIVE list with the exception of TranSynd and BP Autran 295. Do not go by product name when buying an automatic transmission fluid always refer to the GM/Mercon approval number.**

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**
Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

Appendix B: Inactive Approved Oils For the Voith DIWA Transmission

For Voith Transmissions: DIWA.2, DIWA.2W7, DIWA.3, DIWA.3W7, DIWA.3E

	Oil Manufacturer	*Oil Brand*	*GM Approval Number*	*Transfer Date*	*Drain Interval*
1	Amsoil	Amsoil ATF	E25112	07-11-05	72,000
2	Aamaco	Aamco Synthetic Blend ATF	H36304	04-19-06	36,000
3	Citgo Petroleum Corp	Transguard Dexron III / Mercon	G34059	07-11-05	36,000
4	Coastal Unilube Inc	Coastal Dexron III / Mercon	F30310	07-11-05	36,000
5	Cofram	Sintofluid	46-GL4	07-11-05	36,000
6	Delta Petroleum Co.	Mercon V2000	G34095	02-21-06	36,000
7	Exxon Mobil Corp Fairfax Va	Mobil Delvac	H34799	11/18/07	36,000
8	Exxon Mobil Corp	Super flow Synthetic ATF	G34015	07-11-05	36,000
9	Exxon Mobil Corp	Mobil ATF 220	D21611	07-11-05	36,000
10	Exxon Mobil Corp	Mobil Multi purpose ATF	G34019	07-11-05	36,000
11	Exxon Mobil Corp	Mobil Multi Vehicle ATF	H36304 M031202	12-05-06	36,000
12	Exxon Mobil Corp	Mobil 1 Synthetic ATF	G34036	07-11-05	36,000
13	Fuchs Lubricants Co	Sintofluid III MTA	H36310	12-29-08	72,000
14	Cognis Corp	Emgard 2803 Synthetic ATF	G34494	07-11-05	36,000
15	Chevron Texaco Global	Chevron ATF MERCON V	G34555	02-01-06	36,000
16	Chevron Texaco Global	Texaco/Havoline ATF MERCON V	G34555	02-01-06	36,000
17	Chevron Texaco Global	Chevron Multi-vehicle ATF	G34555	02-01-06	36,000
18	Chevron Texaco Global	Texaco/Havoline Multi-vehicle ATF	G34555	02-01-06	36,000
19	Chevron Texaco Global Lubricants	Chevron Synthetic ATF Heavy Duty	G34090	02-10-06	36,000
20	Chevron Texaco Global Lubricants	Texaco Synthetic ATF Heavy Duty	G34090	02-10-06	36,000
21	Conoco Phillips - Kendall	Kendall VersaTrans	H36327 M5040902	12-29-08	36,000
22	Conoco Phillips - 76 Lubricants	76 VersaTrans ATF	H36327 M5040902	12-29-08	36,000
23	Conoco Phillips-Conoco	Conoco VersaTrans	H36327 M5040902	12-29-08	36,000
24	Conoco Phillips- Phillips 66	Phillips 66 VersaTrans ATF	H36327 M5040902	12-29-08	36,000
25	Lubrication Engineering Inc	1150 Trans-All EHP ATF	H36309	05-16-08	72,000
26	Shell Canada	Donax TG	G34026	02-21-06	36,000
27	Schaeffer Mfg	#204SAT All Trans Supreme	H36319 M040610	05-16-08	36,000
28	Shell USA	Shell Formula Shell Mercon V	H36007	06-01-06	72,000
29	Shell USA	Quaker State Mercon V	H36007	06-01-06	72,000

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30	Warren Oil	Coastal Universal Synthetic	H36366	09-01-07	72,000
31	Warren Oil	Lubriguard Synthetic Blend	H36366 M041209	9-01-07	72,000
32	Warren Oil	Warren Synthetic Blend ATF	H36366 M041209	09-01-07	72,000

IMPORTANT NOTICE

END USERS ARE NOT AUTHORIZED OR INSTRUCTED TO USE ANY OF THE ABOVE-DESCRIBED OILS IF ANY PORTION OF THE APPLICABLE OIL IS MODIFIED AS A RESULT OF A CHANGE IN THE BASE OIL, AN ADDITIVE PACKAGE OR ADDED COMPONENTS.

Appendix C: Change List – Approved Oils for the Voith DIWA Transmission

For Voith Transmissions: DIWA.2, DIWA.2W7, DIWA.3, DIWA.3W7, DIWA.3E

	Oil Manufacturer	*Oil Brand*	*GM Approval Number*	*Drain Interval*	*Transfer Date*	*Description of Transfer*

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DIWA Service Bulletin

Service Bulletin #013X **Issued Date: June 8, 2009**
Replaces Service Bulletin #013W **Revised Date: June 17, 2009**

Important Warranty requirement for fluid intervals beyond 36,000 miles

For units that are covered by Voith warranty and are using fluids that have a drain interval in excess of 36,000 miles Voith has the following requirements in order to maintain the existing warranty.

1. Oil sampling and analysis of the ATF from each unit under warranty must occur at 18,000 mile (29,000 KM) intervals with the samples being taken prior to the oil change.
   Note: these procedures are outlined in Voith Service Bulletin 25…

2. Analysis results must be compared to the standards set in Voith Service Bulletin 4x

If irregularities are found in the oil sample results, that is, the results are outside the limits set forth in Voith DIWA Service Bulletin 4x you will need to decrease your drain intervals.

3. If irregularities continue in future oil samples, your oil analysis company will suggest a course of action. These suggestions should be followed and you should also contact the DIWA service department for additional information and direction. This may include pulling the oil pan and conducting a bottom end inspection of the transmission or other diagnostic measures

4. In the event there is a warrantable failure of the transmission, Voith Turbo Inc may require the following information for failure evaluation and warranty claim processing.
   - A copy of the current oil analysis report along with copies of the past three analysis reports. Voith may also require copies of **ALL** oil analysis reports.
   - Information regarding oil type (Company name, Product name and approval number). The approval number is the licensing number provided by GM or Ford Mercon -V®.
   -

If these records or the required information can not or will not be presented to Voith upon request, Voith reserves the right to limit or deny warranty coverage on the unit in question. This limitation or revocation of warranty coverage may also include the entire fleet.

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DIWA Service Bulletin

Service Bulletin #118I **Issued Date: June 8, 2009**
Replaces Service Bulletin #118H **Revised Date: June 17, 2009**

Subject: **Oils Approved for Use with the following DIWA Transmissions: DIWA.5**

Purpose: **This service bulletin provides certain operating, maintenance and service instructions relating to the oils that must be used in connection with the DIWA transmissions described above.**

Note: **This service bulletin addresses DIWA transmissions operated by end users within North America. This service bulletin does not affect any of the matters described in the following Voith Turbo documents (which address matters relevant for certain transmissions operated by end users outside of North America): 55.6335.32 & 55.6336.32 & G607.**

This service bulletin refers to DIWA Transmission DIWA.5

This service bulletin supersedes all previous service bulletins regarding the same subject matter.

SELECTION AND USE OF PROPER TYPES OF OILS

General: The use of certain types of oil in connection with the DIWA transmissions may result in damage to the transmissions and related equipment. This service bulletin provides important instructions with respect to the selection and use of proper types of oils in connection with the DIWA transmissions.

Preferred Oils: End users should use the oils described on Appendix A (Preferred Approved Oils for the Voith DIWA Transmission) in connection with the DIWA transmissions. Voith Turbo approved the use of the oils described on Appendix A based on information submitted by the oil manufacturer within the two-year period preceding the date of this service bulletin (or update to this service bulletin).

Permitted Oils: If the use of the oils described on Appendix A is not feasible, then end users may use the oils described on Appendix B (Inactive Approved Oils for the Voith DIWA Transmission). The oils described on Appendix B were previously listed on Appendix A, but have been removed from Appendix A because either (a) Voith Turbo has learned that the oils are no longer produced by the applicable oil manufacturer or (b) the applicable oil manufacturer has not completed the recertification process with respect to the oils within the two-year period preceding the date of this service bulletin (or update to this service bulletin).

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DIWA Service Bulletin

Service Bulletin #118I **Issued Date: June 8, 2009**
Replaces Service Bulletin #118H **Revised Date: June 17, 2009**

Change List: End users should review Appendix C (Change List – Approved Oils for the Voith DIWA Transmission). Appendix C describes the oils, if any, that Voith Turbo has removed from Appendix A or Appendix B since the date of the previous update to this service bulletin.

Impact on Warranty: End users are instructed to avoid the use of any type of oil that is not described on Appendix A or Appendix B in connection with the DIWA transmissions. Neither Voith Turbo nor any of its affiliates will have any liability or responsibility for any damage, loss or other claim arising from the use of any oil that is not described on Appendix A or Appendix B in connection with the DIWA transmission.

Oil Supply: The oil market is subject to rapid changes due to frequent changes of approval numbers and the associated reformulations of oils. End users should note that Voith Turbo may remove oils from Appendix A and/or Appendix B for any or no reason, including as a result of changes in the oil market, when end users are making decisions regarding oil supply or purchase commitments. Neither Voith Turbo nor any of its affiliates will have any liability or responsibility for any loss or other claim arising from any change made to Appendix A and/or Appendix B, including any loss or other claim relating to any end user's purchase of oils that are removed from Appendix A and/or Appendix B.

Oil Changes: If an end user wishes to change the type of oil that it is using in connection with a DIWA transmission (to an oil described on Appendix A or Appendix B), then the end user should cause all storage tanks and associated fluid handling equipment to be thoroughly cleaned to remove all traces of the previously used oil.

APPROVAL/RECERTIFICATION PROCESS

Set forth below is an overview of the approval/recertification process that Voith Turbo generally will use to determine whether an oil may be described on Appendix A. If an end user wishes to use an oil that is not described on Appendix A or Appendix B, then the end user may request the applicable oil manufacturer to comply with the process described below and Voith Turbo will determine whether it is willing to add the oil to Appendix A. Importantly, Voith Turbo will move an oil from Appendix A to Appendix B if an oil manufacturer fails to comply with the process described below with respect to the oil at least once during every two-year period.

1. The oil manufacturer must fill out Appendix D (Data Sheet for Automatic Transmission Oils).

   Note: All Information must be filled out completely, or the application will be returned without further action on the part of Voith Turbo.

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2. The oil manufacturer must submit a one pint base sample of the oil that is being evaluated.

3. The oil manufacturer must submit a laboratory analysis report for the one pint base sample. The analysis must cover the following criteria:

    - Acid Number (ASTM D664 mod)
    - Viscosity at 40 and 100 deg C,
    - Element data in ppm (Fe, Al, Cr, Cu, Pb, Sn, Ni, Ag, Si, Na, B, Zn, P, Ca, Mg, Ba, Mo, K).
    - IF analysis report of sample.

4. After its review of the information submitted by the oil manufacturer, Voith Turbo will notify the oil manufacturer whether the oil will be described on Appendix A.

OTHER SERVICE BULLETINS

This service bulletin does not supersede or otherwise affect any service bulletins regarding any other subject. End users should review and comply with all other service bulletins relating to DIWA transmissions. **Without limitation, end users should review and comply with the Servicing Schedule for DIWA Transmissions contained in Service Manual DIWA 5 # 15000024710_en which contains important operating, maintenance and service instructions regarding oil and filter changes.**

IMPORTANT NOTICE

The information contained in this service bulletin, including the appendices, is current as of the date of this service bulletin (or update to this service bulletin). Voith Turbo reserves the right to modify the contents of this service bulletin, including the appendices, at any time.

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DIWA Service Bulletin

Service Bulletin #118I **Issued Date: June 8, 2009**
Replaces Service Bulletin #118H **Revised Date: June 17, 2009**

Appendix A: Preferred Approved Oils for the Voith DIWA Transmission

For Voith Transmission: DIWA.5

	COMPANY NAME (Marketer)	*BRAND NAME*	*Approval Number GM ---------- Mercon*	*Class Base Synthetic (S) or Mineral (M)*	*Recertification Date*	*Drain Interval*
1	American Agip	HD Synthetic Blend ATF	H36381 NA	S	01/23/10	72,000
2	British Petroleum	Autran Syn 295	G36746 NA	S	05/21/10	72,000
3	BP USA	Castrol Ltd Multi Vehicle ATF	H36311 M040503	S	01/31/10	36,000
4	Castrol Ltd. Heavy Duty Lube	TranSynd ATF	G34010 NA	S	05/21/10	72,000
5	Chevron Products Company	Caltex Texamatic 1888 (H36161)	Caltex-510134	S	10/02/10	36,000
6	Chevron Products Company	Chevron Texamatic 1888 (H36161)	Caltex-510134	S	10/02/10	36,000
7	Chevron Products Company	Chevron Synthetic ATF HD	H36048 M5050801	S	06/1/09	72,000
8	Chevron Products Company	Texaco Synthetic ATF	H36048 M5050801	S	06/1/09	72,000
9	Chevron Products Company	Caltex Synthetic ATF	H36048 M5050801	S	06/1/09	72,000
10	Chevron Texaco Global Lubricants	Chevron ATF MERCON V	H36440 M5050901	M	01/23/10	36,000
11	Chevron Texaco Global Lubricants	Texaco Havoline ATF MERCON V	H36440 M5050901	M	01/23/10	36,000
12	Chevron Texaco Global Lubricants	Chevron Multi-vehicle ATF	H36440 M5050901	M	01/23/10	36,000
13	Chevron Texaco Global Lubricants	Texaco Havoline Multi-vehicle ATF	H36440 M5050901	M	01/23/10	36,000
14	Chevron Products Company	Volvo Ultra ATF	ETL 10116	S	04/24/11	36,000
15	Citgo Petroleum Corp	Quatra Syn	FP-6751	S	10/10/10	36,000
16	Citgo Petroleum Corp	Transguard Multi-Vehicle ATF	DF-3383-9	S	06/15/11	36.000
17	Citgo Petroleum Corp	Transguard Mercon V	DF-3383-4	S	06/15/11	36,000
16	Conoco Phillips Company (Conoco)	Conoco MERCON V ATF	H36011 M5040301	M	01/31/10	36,000

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DIWA Service Bulletin

Service Bulletin #118I **Issued Date: June 8, 2009**

Replaces Service Bulletin #118H **Revised Date: June 17, 2009**

	COMPANY NAME (Marketer)	*BRAND NAME*	*Approval Number GM ---------- Mercon*	*Class Base Synthetic (S) or Mineral (M)*	*Recertification Date*	*Drain Interval*
17	Conoco Phillips Company (76 Lubricants)	76 MERCON V ATF	H36011 M5040301	M	01/31/10	36,000
18	Conoco Phillips Company (Phillips 66)	Phillips 66 MERCON V ATF	H36011 M5040301	M	01/31/10	36,000
19	Conoco Phillips Company (Kendall)	Kendall MERCON V ATF	H36011 M5040301	M	01/31/10	36,000
20	Conoco Phillips Company (Conoco)	Conoco Versa Trans	M5080602	S	02/25/11	36,000
21	Conoco Phillips Company (76 Lubricants)	76 VersaTrans ATF	M5080602	S	02/25/11	36,000
22	Conoco Phillips Company (Phillips 66)	Phillips 66 Versa Trans ATF	M5080602	S	02/25/11	36,000
23	Conoco Phillips Company (Kendall)	Kendall Versa Trans ATF	M5080602	S	02/25/11	36,000
24	Cognis	Emguard ATF 2801	H36002	S	04/11/11	72,000
25	Delta Petroleum	Dexron III Mercon Multipurpose ATF	H36043	S	04/22/11	36,000
26	Deutsche Pentosin Werke GmbH	Pentosin ATF1	G052162A2	S	02/26/09	72,000
27	Exxon Mobil	Esso ATF LT 71141	71141	S	04/24/10	72,000
28	Fuchs	Titan ATF 4000	H-36055	S	06/02/11	36,000
29	Fuchs	Titan ATF 5000 SL	IID-2145/IIE-25112	S	06/02/11	72,000
30	Fuchs	Titan ATF 5005	H-36002	S	06/02/11	72,000
31	Petro Canada Lubricants	Dexron VI ATF	H36006 J-6001	S	01/09/09	36,000
32	Petro Canada Lubricants	PC HD Syn Blend ATF	H36007 M5970801	S	03/31/10	72,000
33	Petro Canada Lubricants	DuraDrive HD Synthetic ATF	DDHDATF	S	04/24/11	36,000
34	Shell Oil Products (SOPUS)	Donax TX	H36203	S	05/16/10	36,000
35	Shell Oil Products (SOPUS)	Donax TA	D-21666	S	04/23/00	36,000
36	Shell Oil Products (SOPUS)	Donax TV	550014252	S	06/05/11	72,000
37	Shell Oil Products (SOPUS)	Formula Shell Multi-Vehicle ATF	H36464	S	03/17/11	36,000

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	COMPANY NAME (Marketer)	*BRAND NAME*	*Approval Number GM ---------- Mercon*	*Class Base Synthetic (S) or Mineral (M)*	*Recertification Date*	*Drain Interval*
38	Shell Oil Products (SOPUS)	Pennzoil Mercon V	H 36307	S	03/17/11	36,000
39	Shell Oil Products (SOPUS)	Pennzoil Multi-Vehicle ATF	H36200	S	03/17/11	36,000
40	Shell Oil Products (SOPUS)	Quaker State Multi-Vehicle ATF	H36201 NA	S	03/17/11	36,000
41	Shell Oil Products (SOPUS)	Quaker State 4 X 4	H36606 NA	S	03/17/11	36,000
42	Shell Oil Products (SOPUS)	Pennzoil Mercon V ATF	H36307	S	03/02/11	36,000
43	Valvoline	Maxlife	M5070801	S	02/29/10	36,000
44	Warren Oil	Warren Synthetic Blend	H36043	S	12/20/09	36,000
45	Warren Oil	Coastal Multi-Vehicle Synthetic Blend	H36043	S	12/20/09	36,000
46	Warren Oil	Lubriguard Synthetic Blend ATF	H36043	S	12/20/09	36,000
47	Warren Oil	Service Pro Premium Synthetic Blend ATF	H36043	S	12/20/09	36,000

IMPORTANT NOTICE

END USERS ARE NOT AUTHORIZED OR INSTRUCTED TO USE ANY OF THE ABOVE-DESCRIBED OILS IF ANY PORTION OF THE APPLICABLE OIL IS MODIFIED AS A RESULT OF A CHANGE IN THE BASE OIL, AN ADDITIVE PACKAGE OR ADDED COMPONENTS.

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Appendix B: Inactive Approved Oils For the Voith DIWA Transmission

For Voith Transmission: DIWA.5

	Oil Manufacturer	*Oil Brand*	*GM Approval Number*	*Transfer Date*	*Drain Interval*
1	BP Lubricants USA Inc	Castrol Ltd Multi Vehicle ATF	H36311 M040503	01-31-07	36,000
2	Conoco Phillips Company (Conoco)	Conoco VersaTrans ATF	H36327 M5040902	12-31-08	36,000
3	Conoco Phillips Company (76 Lubricants)	76 VersaTrans Synthetic Blend ATF	H36327 M5040902	12-31-08	36,000
4	Conoco Phillips Company (Phillips 66)	Phillips 66 VersaTrans ATF	H36327 M5040902	12-31-08	36,000
5	Conoco Phillips Company (Kendall)	Kendall VersaTrans ATF	H36327 M5040902	12-31-08	36,000
6	Fuchs Lubricants Co	Sintofluid III MTA	H36310 NA	12-31-08	72,000
7	Delta Petroleum Co.	Multi Purpose MERCON V Dexron III H	H36043 M040620	09-01-07	36,000
8	Exxon Mobil Corp	Mobil Delvac Synthetic ATF	H34799 NA	12-18-07	72,000
9	Exxon Mobil Corp	Aamaco Synthetic Blend ATF	H36304	06-01-06	36,000
10	Exxon Mobil Corp	Mobil Multi-Vehicle ATF	H36304 M031202	12-05-06	36,000
11	Lubrication Engineering Inc.	1150 Trans-All EHP ATF	H36309 NA	5-22-08	72,000
12	Shell Oil U.S.A.	Quaker State Mercon V ATF	H36007	06-01-06	72,000
13	Warren Oil	Coastal Universal Synthetic Blend ATF	H36366 M041209	12-31-07	72,000
14	Warren Oil	Lubriguard Synthetic Blend ATF	H36366 M041209	12-31-07	72,000
15	Warren Oil	Warren Synthetic Blend ATF	H36366 M041209	12-31-07	72,000

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IMPORTANT NOTICE

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Appendix C: Change List – Approved Oils for the Voith DIWA Transmission

For Voith Transmission: DIWA.5

	Oil Manufacturer	*Oil Brand*	*GM Approval Number*	*Drain Interval*	*Transfer Date*	*Description of Transfer*

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DIWA Service Bulletin

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Important Warranty requirement for fluid intervals beyond 36,000 miles

For units that are covered by Voith warranty and are using fluids that have a drain interval in excess of 36,000 miles Voith has the following requirements in order to maintain the existing warranty.

1. Oil sampling and analysis of the ATF from each unit under warranty must occur at 18,000 mile (29,000 KM) intervals with the samples being taken prior to the oil change.
   Note: these procedures are outlined in Voith Service Bulletin 25…

2. Analysis results must be compared to the standards set in Voith Service Bulletin 4x

If irregularities are found in the oil sample results, that is, the results are outside the limits set forth in Voith DIWA Service Bulletin 4x you will need to decrease your drain intervals.

3. If irregularities continue in future oil samples, your oil analysis company will suggest a course of action. These suggestions should be followed and you should also contact the DIWA service department for additional information and direction. This may include pulling the oil pan and conducting a bottom end inspection of the transmission or other diagnostic measures.

4. In the event there is a warrantable failure of the transmission, Voith Turbo Inc may require the following information for failure evaluation and warranty claim processing.
   - A copy of the current oil analysis report along with copies of the past three analysis reports. Voith may also require copies of **ALL** oil analysis reports.
   - Information regarding oil type (Company name, Product name and approval number). The approval number is the licensing number provided by GM or Ford Mercon -V®.

If these records or the required information can not or will not be presented to Voith upon request, Voith reserves the right to limit or deny warranty coverage on the unit in question. This limitation or revocation of warranty coverage may also include the entire fleet.

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DIWA Service Bulletin

Service Bulletin #123 **Issued Date: April 8, 2009**
Replaces Service Bulletin N/A **Revised Date: April 8, 2009**

Transmissions: DIWA .3 and .3E

Subject: **Software Level Requirements 18.27.1**

Purpose: **Inform customers of the required software for all transmissions**

Reference: **N/A**

This is a notification that your fleet should have the software 18.27.1 installed.

All Voith .3 and .3E units are affected

This software upgrade includes many enhanced features that increase the operational life of the Voith transmission. Software 18.27.1 is needed for all units, in and out of warranty. The loading of units under warranty will be handled by the Cummins Distributor in your area. Please contact Cummins to schedule your units.

The customer is responsible for loading non-warranty units. All files and software are provided by Voith free of charge.

Please confirm that you have loaded the 18.27.1 software upgrades. You may find the current ECU information in the “A” screen of DIWAgnosis.

Failure to comply with this requirement could result in limited base warranty coverage and limited extended warranty coverage, including request for policy. This requirement is also applicable to all X-Change transmission customers.18.27.1 must be in use to activate X-Change transmission warranty coverage.

If there are any concerns regarding the software of your transmission ECU please contact the Voith Turbo Inc. Road Service Group at **VTIroadservice@voith.com**

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Voith Turbo, Inc.
Road Service Group
25 Winship Road
York, PA 17406
Phone (717) 767-3200
Telefax (717) 767-3210

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